



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,586	09/18/2003	Terry L. Gilton	MICRON.272A	9170
20995	7590	10/12/2006	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			NGUYEN, SANG H	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2877	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/666,586		GILTON, TERRY L.	
	Examiner		Art Unit	
	Sang Nguyen		2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's request filed on 07/17/06 for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Applicant's response to remarks on 07/17/06 has been entered. It is noted that the application contains claims 1-24 and claims 25-51 have been canceled by the amendment on 11/28/05.

Claim Objections

Claims 7-8, 11-12, and 18 are objected to because of the following informalities:

Regarding claims 7-8 recite the limitation "the composition of the particle" in line 1 of claims 7-8. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 11-12 recite the limitation "a plurality of monomers" in line 1 of claims 11-12. There is insufficient antecedent basis for this limitation in the claim. Applicant should change the "a" of claims 11-12 after "plurality of monomers" to --said--.

Regarding claim 18 recites the limitation "the vapor phase" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

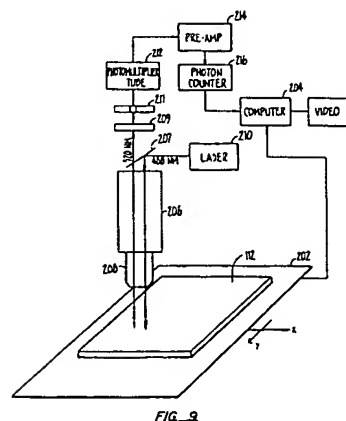
Claims 1, 6, 11-13, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pirrung et al (U.S. Patent No. 6,646,243).

Regarding claim 1; Pirrung et al discloses a method and device (figure 9 and abstract) for detecting a particle on a substrate (112 of figure 9), the method comprising:

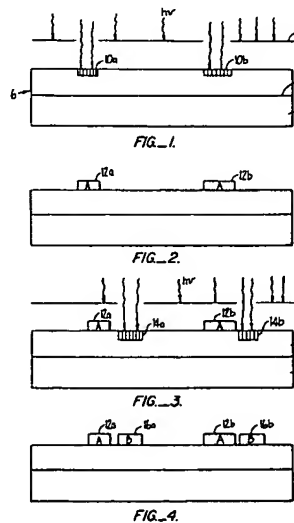
contacting the substrate with a monomer (col.3 lines 7-11 and 58-65; and col.5 line 65-col.6 line 9, wherein the particle catalyzes the polymerization of the monomer (col.7 lines 8-17 and col.10 lines 51-67), and

detecting the particle using a particle counter (i.e., a photon counter [216 of figure 9] coupled to a computer [204 of figure 9] and see col.3 line 66 to col.4 line 16; and col.20 line 15 to col.21 line 15; and col.24 lines 32-63). See figures 1-20.

U.S. Patent Nov. 11, 2003 Sheet 4 of 22 US 6,646,243 B2



U.S. Patent Nov. 11, 2003 Sheet 1 of 22 US 6,646,243 B2



Regarding claim 6; Pirrung et al discloses the particle counter (216, 204 of figure 9) detects a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization (col.3 line 66 to col.4 line 16; and col.16 lines 15-24 and 53-60).

Regarding claim 11; Pirrung et al discloses the substrate (112 of figure 9) is contacted with plurality of monomers [i.e., a first monomer and second monomer (col.3 lines 1-24].

Regarding claims 12-13; Pirrung et al discloses a plurality of monomers ([i.e., a first monomer and second monomer (col.3 lines 1-24] contact the substrate (112 of figure 9) simultaneously or/and sequentially (col.8 line 62 to col.9 line 55).

Regarding claim 24; Pirrung et al discloses the substrate (112 of figure 9) is radiated with electromagnetic radiation (col.7 lines 35-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Berger et al (U.S. Patent No. 4,967,095).

Regarding claims 2 and 4-5; Pirrung et al discloses all of features of claimed invention except for the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof, wherein the particle counter is a laser scanner for detecting particles optically. However, Berger et al teaches that it is known in the art to provide method of detecting particles on the surface comprising the particle counter (i.e., a particle detector (col.1 lines 46-50 and col.2 lines 43-45) detects a property selected from the group consisting of number of particles (col.6 line 55), sizes of the particles, positions of the particles, and combinations thereof (col.col.6 lines 12-19 and 45-48), wherein the particle counter is a laser scanner for detecting particles optically (col.5 line

10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof, wherein the particle counter is a laser scanner for detecting particles optically as taught by Berger et al for the purpose of detecting particles on the surface more accuracy.

Claims 3 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Yamauchi et al (U.S. Patent No. 4,965,454).

Regarding claim 3; Pirrung et al discloses all of features of claimed invention except for the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate. However, Yamauchi et al teaches that it is known in the art to provide method of detecting particle comprising the particle counter (considered to be a laser [14 of figure 1], scanner mirrors [20a, 20b of figure 1], and two detectors [203a, 203b of figure 1]) is capable of detecting particles (5a, 5b of figure 1) on both sides of the substrate (102 of figure 1) without unmounting the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Regarding claim 14; Pirrung et al discloses all of features of claimed invention except for the particle is a metal. However, Yamauchi et al teaches that it is known in the art to provide method of detecting particle comprising the particle is a metal (col.1 lines 50-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the particle is a metal as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Regarding claim 15; Pirrung et al and Yamauchi et al discloses all of features of claimed invention except for the metal is a copper. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the metal is copper, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claims 16-17; Pirrung et al discloses all of features of claimed invention except for the substrate is single silicon wafer. However, Yamauchi et al teaches that it is known in the art to provide method of detecting particle comprising the substrate is a single silicon wafer (col.1 lines 5-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the substrate is single silicon wafer as taught by Yamauchi et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Tote et al (U.S. Patent No. 4,965,454).

Regarding claims 7-8; Pirrung et al discloses all of features of claimed invention except for the composition of the particle is identified by the polymerization rate of the monomer. However, Tote et al teaches that it is known in the art to provide the composition of the particle is identified by the polymerization rate of the monomer (col.6 lines 41-60 and col.13 line 62 to col.14 line 26 and see figures 1 and 8-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the composition of the particle is identified by the polymerization rate of the monomer as taught by Tote et al for the purpose of detecting particles on the surface with more accuracy.

Regarding claims 9-10; Pirrung et al discloses all of features of claimed invention except for the monomer is polymerized by a plurality of particle types. However, Tote et al teaches that it is known in the art to provide the monomer is polymerized by a plurality of particle types (col.24 lines 24-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is polymerized by a plurality of particle types as taught by Tote et al for the purpose of detecting particles on the surface with more accuracy.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Dower et al (U.S. Patent No. 7,056,666).

Regarding claim 18; Pirrung et al discloses all of features of claimed invention except for the monomer is in a vapor phase. However, Dower et al teaches that it is known in the art to provide the monomer is in a vapor phase (col.8line 65 to col.9 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is in a vapor phase as taught by Dower et al for the purpose of detecting particles on both of the surface substrate more accuracy.

Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirrung et al (U.S. Patent No. 6,646,243) in view of Tanaka et al (U.S. Patent No. 5,100,762).

Regarding claims 19-20; Pirrung et al discloses all of features of claimed invention except for the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile. However, Tanaka et al teaches that it is known in the art to provide the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile (col.12 lines 4-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with the monomer is an alkene, wherein the alkene is selected from the group consisting of styrene, methyl

acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile as taught by Tanaka et al for the purpose of good capacity to form homogeneous films and high sensitivities at a specific wavelength allowing efficient development.

Regarding claim 21; Pirrung et al and Tanaka et al discloses all of features of claimed invention except for the monomer is selected from the group consisting of aniline and thiophene. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the monomer is selected from the group consisting of aniline and thiophene, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 22; Pirrung et al discloses all of features of claimed invention except for further comprising an initiator. However, Tanaka et al teaches that it is known in the art to provide further comprising an initiator (col.12 line 65 to col.13 line 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method of Pirrung et al with an initiator as taught by Tanaka et al for the purpose of good capacity to form homogeneous films and high sensitivities at a specific wavelength allowing efficient development.

Regarding claim 23; Pirrung et al and Tanaka et al discloses all of features of claimed invention except for the initiator is benzyl bromide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method for detecting a particle on a substrate of Pirrung et al with the initiator is benzyl

bromide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mosbach et al (5994110) discloses method for direct synthesis of compounds; Goldberg et al (6706875) discloses substrate preparation process; or Kohara et al (5135, 068) discloses coated particle;

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/666,586

Page 12

Art Unit: 2877

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 7, 2006


Sang H. Nguyen
Patent Examiner
Art Unit 2877